Glossary

Term	Definition
Aerosol	A gaseous suspension of fine solid or liquid particles.
Agricultural Activity/Agriculture	Any activity conducted on land or water for the purpose of producing an agricultural commodity, including crops, livestock, trees, and fish.
Agronomic Rate	The application rate of nutrients and moisture required to achieve anticipated or documented crop yields for a specific region. The agronomic rate may be estimated by published information or determined from actual field measurements.
Agronomic Uptake	The amount of nutrients or salts harvested from a land application field or system.
Applicable Requirements	Any state, local or federal statutes, regulations or ordinances to which the facility is subject.
Aquic	Saturated at least part of the time; reducing conditions in the soil prevail.
Aquifer	"A geological unit of permeable saturated material capable of yielding economically significant quantities of water to wells and springs."(IDAPA 58.01.11.007.02)
Aridic	Soil dry most of the time.
Available Water Capacity	Moisture content of soil between field capacity and wilting point that is available for crop use. Use soil survey or site specific information to determine.
Bacteria	A group of universally distributed, rigid, essentially unicellular microorganisms. Bacteria usually appear as spheroid, rodlike or curved entities, but occasionally appear as sheets, chains, or branched filaments.
Beneficial Use	Any of the various uses which may be made of the water of Idaho, including, but not limited to, domestic water supplies, industrial water supplies, agricultural water supplies, navigation, recreation in and on the water, wildlife habitat, and aesthetics. The bendficial use is dependent upon actual use, the ability of the water to support a non-existing use either now or in the future, and its likelihood of being used in a given manner. The use of water for the purpose of wastewater dilution or as a receiving water for a waste treatment facility effluent is not a beneficial use.
Beneficial Uses of Ground Water	Various uses of ground water in Idaho including, but not limited to, domestic water supplies, industrial water supplies, agricultural water supplies, aquacultural water supplies and mining. A beneficial use is defined by actual current uses or future uses of the ground water.

Best Available Method	Any system, process, or method which is available to the public for commercial or private use to minimize the impact of point and nonpoint source contaminants on ground water quality.
Best Management Practice	A practice or combination of practices determined to be the most effective and practical means of preventing or reducing contamination to ground water and/or surface water from nonpoint and point sources to achieve water quality goals and protect the beneficial uses of the water.
Best Practical Method	Any system, process, or method that is established and in routine use which could be used to minimize the impact of point or nonpoint sources of contamination on ground water quality.
Board	The Idaho Board of Environmental Quality.
Buffer Zone	An area around the perimeter of a land treatment field that will provide an adequate separation distance which will reduce the potential for aesthetic and public health impacts.
Calcareous	Consisting of or containing calcium carbonate (CaCO3).
Capture Zone	A capture zone, or zone of contribution as it is sometimes called, is the area surrounding a pumping well that encompasses all areas and land use activities that supply ground water recharge to the well (EPA 1991).
Carryover Soil Moisture	Moisture stored in soils within root zone depths during the winter, at times when the crop is dormant, or before the crop is planted. This moisture is available to help meet the consumptive water needs of the crop.
Chemical Oxygen Demand (COD)	A measure of the oxygen-consuming capacity of inorganic and organic matter present in water or wastewater. It is expressed as the amount of oxygen consumed from a chemical oxidant in a specific test. It does not differentiate between stable and unstable organic matter and thus does not necessarily correlate with biochemical oxygen demand.
Coagulation	In water and wastewater treatment, the destabilization and initial aggregation of colloidal, finely divided suspended matter and/or bacterial cells by the addition of a floc-forming chemical or by biological processes.
Coliform-group Bacteria	A group of bacteria predominantly inhabiting the intestines of man or animal, but also found in nature. It includes all aerobic and facultative anaerobic, gram-negative, nonspore-forming bacilli that ferment lactose with production of gas. This group of "total" coliforms includes E. Coli which is considered the typical coliform of fecal origin.
Confined Aquifer	A geological formation in which water is isolated from the atmosphere by an overlying less permeable geologic formation. Confined ground water is generally subject to pressure greater than atmospheric; thus, the water level rises above the top of the aquifer.
Consumptive Irrigation Requirement	The depth of irrigation water, exclusive of precipitation, stored soil moisture, or ground water, that is required consumptively for crop production.

Consumptive Use	Consumptive use, often called evapo-transpiration is the amount of water used by the vegetative growth of a given area in transpiration and building of plant tissue and that evaporated from adjacent soil or intercepted precipitation on the plant foliage in any specified time. If the unit of time is small, consumptive use is usually expressed as acre inches per acre or depth in inches, whereas, if the unit of time is large, such as a growing season or a 12-month period, it is usually expressed as acre feet per acre or depth in feet.
Consumptive Water Requirement	The amount of water potentially required to meet the evapo-transpiration needs of vegetative areas so that plant production is not limited from lack of water.
Contamination	The direct or indirect introduction into ground water of any contaminant caused in whole or in part by human activities.
Crop Root Zone	The zone that extends from the surface of the soil to the depth of the deepest crop root and is specific to a species of plant, group of plants or crop.
Denitrification	The reduction of oxidized nitrogen compounds (such as nitrates) to nitrogen gas.
DEQ	The Idaho Department of Environmental Quality
Director	The Director of the Department of Health and Welfare or the Director's designee.
Disinfected Wastewater	Wastewater in which pathogenic organisms have been destroyed by chemical, physical or biological means.
Downgradient Boundary	The boundary where wastewater-land application ceases perpendicular to the flow of ground water beneath the wastewater-land application site.
Effective Rainfall	Precipitation falling during the growing period of the crop that is available to meet the consumptive water requirements of crops. It does not include such precipitation as is lost to deep percolation below the root zone nor to surface runoff.
Effluent	Wastewater or other liquid, treated or untreated, flowing from a reservoir, basin, treatment plant or part thereof.
Evaporation Rate	The quantity of water evaporated from a given water surface per unit of time. It is usually expressed in millimeters (inches) depth per day, month or year.
Fault	A break or fracture in the earths crust along which, relative movement of rocks on either side of the plane of the fracture has occurred.
Field Capacity	The moisture percentage, on a dry weight basis, of a soil after rapid drainage has taken place following an application of water, provided there is no water table within capillary reach of the root zone. This moisture percentage usually is reached within two to four days after an irrigation, the time interval depending on the physical characteristics of the soil.

Filtration	The process of passing a liquid through a filtering medium (which may consist of granular material, such as activated carbon, sand, magnetite, diatomaceous earth, finely woven cloth, unglazed porcelain or specially prepared paper) for the removal of suspended or colloidal matter.
Flocculation	In water and wastewater treatment, the agglomeration of colloidal and finely divided suspended matter after coagulation by gentle stirring by either mechanical or hydraulic means. In biological wastewater treatment where coagulation is not used, agglomeration may be accomplished biologically.
Flood Irrigation	Irrigating soils by means of surface application of water in basins.
Food Crops	Any crops intended for human consumption.
Frozen Soil	0o C or less in the upper 6 inches of soil.
Ground Water	(1) Water that occurs in a saturated zone of variable thickness, areal extent and depth below the earth's surface. (2) Any water of the state which occurs beneath the surface of the earth in a saturated geological formation of rock or soil. "Any water of the state which occurs beneath the surface of the earth in a saturated geological formation of rock or soil" (IDAPA 58.01.11.007.15).
Ground Water Compliance	A collection of environmental monitoring sites typically identified as the downgradient boundary of the area that wastewater is physically being applied to or as identified by DEQ on a case-by-case basis. The collection of monitoring points is where biological, chemical and radiological parameters must comply with appropriate water quality standards.
Growing Season	That period of time during the year when climatic factors are typically conductive to crop growth, and a crop is normally planted, cultivated and harvested.
Hazardous Waste	A material or combination of materials, which, because of its quantity, concentration or characteristics (physical, chemical or biological), presents an actual or potential hazard to human health or the environment if not properly treated, stored, disposed of or managed.
Heavy Metals	Metals which exist naturally or can be introduced to the earth and water which can adversely affect human health and the environment. Includes, but not limited to arsenic, barium, cadmium, chromium, copper, iron, lead, manganese, selenium, silver and zinc.
Hydraulic Loading	The amount of water applied to the land surface.
Hydraulic Loading Rate	The rate at which water, whether supplemental irrigation water or wastewater, is applied to a wastewater-land application site. Precipitation, although included in water balance calculations, is not considered to be an applied hydraulic load.
Industrial Effluent	Any wastewater discharged from an industrial treatment facility that does not contain sanitary waters.
Infiltration	The process whereby a liquid enters the soil or other filtering medium.

Infiltration Capacity	The flux of water which the soil profile can absorb through its surface when it is maintained in contact with water at atmospheric pressure.
Irrigation Efficiency	The percentage of applied irrigation water that is stored in the and available for consumptive use by the crop. When the water is measured at the headgate, it is called farm-irrigation efficiency; when measured at the field, it is gnated as field-irrigation efficiency; and when measured at the point of diversion, it be called project-efficiency.
Irrigation Water Requirement	The net irrigation water requirement divided by the irrigation efficiency.
Land Application Facility or Facility	Any structure or system designed or used to treat wastewater through application to the land surface.
Leaching Requirement	The fraction of the irrigation water that must be leached through the root zone to control soil salinity at any specified level.
Loading	The amount of organic matter, water, and nutrients applied to land in wastewater. See Nutrient Loading.
Municipal Wastewater	Wastewater that contains sewage.
Net Irrigation	The amount of irrigation water that is delivered to a land application site after all application losses are considered. Application losses include wind drift and evaporation. This does not consider evapotranspiration.
Net Irrigation Requirement	The depth of irrigation water, exclusive of precipitation, stored soil moisture, or ground water, that is required consumptively for crop production and required for other related uses. Such uses may include water required for leaching, frost protection, etc.
New Activity	Any significant change in operation or construction of the wastewater treatment system which may impact the waters of the state.
Non Public Drinking Water System (Well)	Includes an individual domestic well, or any domestic well that serves 2 through 14 connections or less than 25 people. It is any system that is not defined as a public drinking water system.
Non-Contact Cooling Water	Water used to reduce temperature which does not come into direct contact with any raw material, intermediate product, waste product (other than heat) or finished product.
Non-Growing Season	That period of time during the year when climatic factors are typically not conductive to crop growth, and a crop is not normally planted, cultivated or harvested.
Nutrient Loading	The amount of plant nutrients applied to soil in wastes, either solid or liquid.
Nutrient Loading Rate	The rate at which nutrients, such as nitrogen, potassium and phosphorus, are applied to a wastewater-land application site.

Overland Flow	A method of wastewater treatment by land application where wastewater is applied to gently sloping, relatively impermeable soils planted with vegetation. Treatment is accomplished by physical, chemical and biological processes as the wastewater flows through the vegetative cover.
Pathogen	A causative agent of disease.
Peak Period Consumptive Use	Peak period consumptive use is the average daily rate of use of a crop occurring during a period between normal irritations when such rate of use is at a maximum.
Percolation	The flow or trickling of a liquid downward through a contact or filtering medium. The liquid may or may not fill the pores of the medium.
Permeability	Also known as Hydraulic Conductivity, it is the capacity of a porous medium to transmit water. It is expressed as the volume of water that will move in unit time under a unit hydraulic gradient through a unit area measured at right angles to the direction of flow.
Permit	Written authorization by the Director to land apply or discharge wastewater, other than to surface waters of the state, as identified in the plan of operation.
Person	An individual, corporation, partnership, association, state, municipality, commission, political subdivision of the state, state agency, federal agency, special district, or interstate body.
Pesticides	Chemicals used to destroy specific organisms that cause disease, hinder food production or affect other commercial activities. The most widely used pesticides are synthetic compounds derived from petrochemicals and include insecticides, herbicides and fungicides.
pH	"Power of the Hydrogen Ion" (S. Sorenson, 1909). Defined as the negative logarithm of the hydrogen ion concentration: pH = -Log10[H+]. Hydrogen ion concentration is expressed in moles/liter (i.e. M). (M&H)
Political Subdivision	The state of Idaho, or any corporation, instrumentality or other agency thereof, or any incorporated city, or any county, school district, water and/or sewer district, drainage district, special purpose district or other corporate district constituting a political subdivision of the state, any quasi-municipal corporation, housing authority, urban renewal authority, other type of authority, any college or university, or any other body corporate and political of the state of Idaho, but excluding the federal government. (Idaho Code).
Pollution	The presence in a body of water (or soil or air) of a substance in such quantities that it impairs the water's usefulness or renders it offensive to the senses of sight, taste or smell. In general, a public health hazard may be created, but in some instances, only economic or aesthetics are involved as when waste salt brines contaminate surface waters or when foul odors pollute the air. (definition from Glossary 1)
Pretreatment	Any process or activity conducted for the purpose of removing or reducing wastewater constituents prior to or in preparation for ultimate treatment.

Primary Effluent	Raw wastewater that has been mechanically treated by screening, degritting, sedimentation and/or skimming processes to remove substantially all floatable and settleable solids.
Primary Treatment	Wastewater treatment processes or methods that serve as the first stage of treatment intended for removal of suspended and settleable solids by gravity sedimentation providing no changes in dissolved or colloidal matter.
Process Food Crop	Any crop intended for human consumption that has been changed from its original form and further disinfection occurs.
Public Drinking Water System (Well)	Includes wells supplying 15 or more connections or 25 or more individuals daily for at least 60 days out of the year. Public drinking water supply wells are identified as either Community Systems or Transient or Non-Transient Non Community Systems depending on whether individuals are served regularly more than or less than 6 months of the year.
Rapid Infiltration	A method of wastewater treatment by land application where wastewater is applied to relatively permeable soils allowing a high rate of infiltration and treatment of larger volumes of water over a small land surface area. Treatment is accomplished by physical, chemical and biological processes as the water percolates through the soil profile.
Rapid Infiltration System	A wastewater treatment method by which wastewater is applied to land in an amount of twenty (20) to six hundred (600) feet per year for percolation through the soil. Vegetation is not generally utilized by this method.
Raw Food Crop	(1) Any crop intended for human consumption which is to be used in its original form. (2) Any food crop which is not processed or undergoes minimal processing prior to human consumption.
Restricted Public Access	Preventing public entry within one thousand (1,000) feet of the border of a facility by site location or physical structures such as fencing. A buffer strip less than one thousand (1,000) feet may be accepted if aerosol drift is reduced.
Rural Area/Industrial Area	An area whose land use is predominantly rural or industrial, having scattered inhabited dwellings.
Saline	A nonsodic (nonsodium) soil containing sufficient soluble salts to impair its productivity.
Saturated Zone	A zone or layer beneath the earths surface in which the interconnected pore spaces of rock and sediments are filled with water.
Sewage	The water-carried human wastes from residences, buildings, industrial establishments and other places.
Slow Rate Irrigation	A method or wastewater treatment by land application which involves controlled distribution of wastewater to the land surface by spraying or surface spreading to support plant growth. Treatment is accomplished through physical, chemical and biological processes occurring in the plant/soil matrix.
Sludge	The semi-liquid mass produced by treatment of water or wastewater.

Sodium Adsorption Ratio (SAR)	An expression of the degree to which sodium will be adsorbed by soils from a solution in equilibrium with the soil. As the SAR increases above 10, soil permeability decreases.
Spray Irrigation	A means of wastewater application by spraying it from orifices in piping.
Subsurface Irrigation	A planned irrigation system which provides for the efficient distribution of irrigation water below the surface of the ground without causing erosion or water loss. Some examples include, low pressure, trickle application below ground surface, underground pressurized pipelines, or controllable seepage based on limiting crop and depth to ground water. (USDA SCS FOTG, 430, 441, & 443).
Suburban/Residential Area	An area whose land use is predominantly suburban or residential. An otherwise rural or industrial area having a housing subdivision in close proximity to the WLAP site would be classed as a suburban/residential area.
Surface Irrigation	Application of water by means other than spraying such that no aerosols are produced.
Suspended Solids	(1) Solids that are in water, wastewater or other liquids, and which are largely removable by laboratory filtering. (2) The quantity of material removed from wastewater in a laboratory test, as prescribed in Standard Methods for the Examination of Water and Wastewater, American Public Health Association, Washington, DC, and referred to as nonfilterable residue.
Time Distribution of Flows	A measurement of the volume of wastewater distributed over a specified area during a specified time period. Typical unit of measure is inches per acre per week.
Total Dissolved Solids (TDS)	(1a) The total concentration of dissolved constituents in solution, usually expressed in milligrams per liter. (1b) The total concentration of dissolved material in water [as] ordinarily determined from the weight of the dry residue remaining after evaporation of the volatile portion of an aliquot of the water sample (Hem, 1985). (1c) The total dissolved (filterable) solids as determined by use of the method specified in Appendix I "Wastewater Analysis". (USGS, 1989. Federal Glossary of selected terms; subsurface; Water Flow and Solute Transportation. Department of the Interior). (2) A measure of inorganic TDS in wastewater is important in order to calculate total salt loading to a site and predict down-gradient ground water concentrations. Estimates of inorganic TDS can be made by subtracting VDS from TDS to obtain Non-Volatile Dissolved Solids (NVDS). Major ions may also be summed to estimate this parameter.
Total Kjeldahl Nitrogen (TKN)	The nitrogen content of a material that is analyzed by a Kjeldahl method. This method measures the sum of free ammonia plus organic nitrogen.
Udic	Soil moist, but not wet, most of the time.
Vadose Zone	The unsaturated area above the water table.
Wastewater	Unless otherwise specified, industrial waste, municipal waste, agricultural waste, and associated solids or combinations of these, whether treated or untreated, together with such water as is present but not including sludge, or non-contact cooling water.

Wastewater Treatment System	All phases of wastewater treatment including any pretreatment equipment and the land application facility.
Water Table	The upper surface of ground water or that level below which the soil is saturated with water.
Waters and Waters of the State	All the accumulations of water, surface and underground, natural and artificial, public and private, or parts thereof which are wholly or partially within, which flow through or border upon the state.
Wellhead	The physical structure, facility, or device at the land surface from or through which ground water flows or is pumped from subsurface, water-bearing formations.
Wellhead Protection Area	The surface and subsurface area surrounding a wellhead or well field, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or well field.
Wellhead Setback Area	An area immediately surrounding a wellhead in which potential sources of contamination are controlled or restricted.
Wilting Point	The wilting point is the moisture percentage, also on a dry weight basis, at which plants can no longer obtain sufficient moisture to satisfy moisture requirements and will wilt permanently unless moisture is added to the soil profile.
Xeric	Mediterranean: Wet winters, dry summers.

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